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GENESEE FARMER.

SATURDAY, JUNE 24, 1837.

The Wire Worm.

Of all the insects that prey on the labors of the husbandman, there are few that make more serious inroads on his prosperity, or contribute more effectually to lessen his profits, than the one whose name is placed at the head of this article. The wire worm is the larvæ of a species of the genus *Elater* of Linnæus; a class of insects known by the familiar name of snapping bugs, so called from the power they possess of throwing themselves into the air when placed on their backs, and thus regaining their feet, which on a smooth surface they would otherwise be unable to do.

The bugs occur on flowers, on various plants, and on the grasses; and deposit their eggs near the roots of plants where they find their way readily into the ground and there remain in the larvæ state for a longer or shorter time according to the species, preying on the roots of such plants as constitute their food. It is in this state that they do the mischief which renders them such a pest to the farmer. The *Elater* appears partial to grass lands, and hence such are the most infested by the larvæ. It is on newly turned pasture or meadow lands that crops of corn, or grain, are the most liable to suffer.

According to Wilson, the name of *wire worm*, bestowed on the larvæ of several species of Elaters, is more specifically applicable to that of the *Cataphagus lineatus* of Stephens. Its habits have been carefully examined by Mr. Bierkander of Sweden, who calls it the *root worm*. "The body is very narrow, of a yellow color, hard, smooth and shining, and composed of twelve segments, on the last of which are two indented dark colored specks. The head is brown, the extremity of the jaws black. It is said to remain five years in the larvæ state, from which it issues as an Elater, the *E. segetis* of Bierkander, synonymous with the *E. Lineatus* of Linnæus, and the insect above named of Stephens." The anterior segments have six feet, and with the aid of these and its scaly head it burrows in the ground with great rapidity.

Great damage is often occasioned by the wire worm to the turnep crops in England, farmers being sometimes compelled to sow their land as many as two or three times, the first plants being entirely devoured. "In the year 1813, according to Mr. Spence, this larvæ destroyed the greater proportion of the annuals sown in the botanic garden of Hull. In such cases Sir Joseph Banks recommended that pieces of potatoes stuck on sharpened sticks, should be placed in the ground near the seeds, and examined and cleared of the wire worms that would adhere to and feed upon them from time to time." The larvæ of the *E. striatus* attacks the roots of wheat, and like those of the other species where they abound, are in some seasons productive of immense damage to the farmer.

In this country the only one known to produce serious injury, is the larvæ of the E. lineatus, and the damage has hitherto been principally confined to corn, a crop scarcely known in England, and of course never taken into account when speaking of this insect. As the culture of the roots extend, its depredations in that way may attract attention, but now it is hardly known except in connection with grass or corn; and here it is frequently terribly destructive. In dry seasons we have seen large portions of pastures or meadow land, the turf of which, loosened by the roots being entirely cut off, might be rolled up like a carpet, in pieces of any required size, and the numbers of the worm collected in such places was such as to defy calculation. Corn it attacks as soon as it is put into the ground, or begins to swell and sprout, and rarely leaves a plant till it dies, when it shifts to a new and fresh one. A friend of ours last year turned over a piece of meadow land, rolled it smooth and planted it with corn. It was soon assailed by the worm, and in a few days plats of several rods square were entirely destroyed; while the whole piece was more or less injured. In some of the hills of corn, as many as twenty or twenty-five worms could be found at once, preying on the roots, penetrating the stalk below the surface of the ground, and thus in both ways rapidly exhausting the vital juices. As the ground was very rich, and the small quantity that grew the last year could have had no effect in exhausting the soil, after receiving a thorough ploughing the land has been again planted, but present appearances indicate with no better success than before. The hills are already full of worms, and in many instances examination shows that each root or shoot as fast as they appear are totally demolished.

The wire worm is the most difficult to destroy, of any insect the farmer is called to encounter. Deep in the earth among the roots on which he preys; carefully avoiding all approach to the surface, or exposure to the light, possessing the power of moving with the necessary rapidity in the loosened soil: he is rarely noticed, or his presence detected, except by the ravages he commits. The cut worm, with which the wire worm is by some confounded, is sometimes very destructive, but his operations are carried on above ground, and he is easily detected and despatched. Clumsy in his movements, and penetrating the earth with difficulty, the cut worm is very unlike the smooth wire worm, which when brought to the surface again buries himself almost instantly. The cut worm undergoes his transformation it is believed within the year; the wire worm continues in his destructive state for four or five years. Various applications have been recommended to destroy or drive away this voracious depredator; but little reliance can be placed on any we have seen tried, that would not destroy the plants also. For ourselves we should place the most dependence on ploughing late in the fall, the land intended to be cultivated the ensuing year. After the wire worm has committed his summers eating, as the cold weather comes on he becomes torpid, and remains in this state still spring. If while in this state he is thrown out of the ground where he is exposed to the severe frosts and vicissitudes of the season, he must perish, and this exposure is more surely effected by ploughing late in the fall than in any other way.

Preserving Rose Leaves.

In preserving flowers or plants for distillation it is very desirable they should never become dry, as in that case much of the essential oil which constitutes their principal value is lost. To prevent this, and render available plants or flowers, gathered in any part of the world, Mr. A. Walsh gives the following directions for preparing them, and if a little time and pains were spent by those who possess large quantities of roses, and the leaves were subjected to the process of distillation, hundreds of thousands of dollars might be saved to the country now spent on foreign perfumery.

"Rose leaves and other flowers, and aromatic plants, may be picked and salted, and kept in that state until a convenient time for distilling, or until enough are gathered to make it an object. By this method the season does not hurry the manufacture; and vegetables may be distilled in New-York, which were gathered in France, Italy, or even Asia; and the perfumed water or essential oil will be in nearly as great perfection, both as to quantity and odor, as if the leaves or plants were fresh gathered.

The salting may be performed thus,—take one and a half pound of rose leaves, or whatever other vegetable substance you choose, and half a pound of salt, and rub them together about four minutes. The friction produced by the salt forcing out the juice of the flower, will reduce the whole to an aromatic paste, which must be carefully collected, and placed in a tight vessel, and kept in a cool place till wanted for distillation. When to be distilled, place the paste in the still or retort, with twice its weight of water."

The Turks manufacture a beautiful article of beads from rose leaves alone, and their perfume renders them an articles of great request in the east. The leaves are gathered when fresh, and in the quantity required, and are bruised and beat in an *iron* mortar until reduced to a perfect paste. The more completely this part of the operation is performed the better will be the beads, and the higher the polish they will receive when dried.—There is nothing difficult in the process, we having made, several years since, a number of strings by way of experiment. The paste may be rolled into balls by the fingers, only they must be nearly double the size required as they shrink much in drying; and as it is somewhat difficult to perforate them when entirely dry, that part of the operation should be performed before they are completely hardened. When polished they do not look bad, their fragrance is delightful, and they retain it for a long time. It will be obvious however that much is depending on the quality of the leaves, the care with which they are reduced to a paste, and the attention paid to consolidating them by rolling. When these are performed as they should be, the beads will be a jet black, and by their perfume and novelty will well reward the maker.

Management of Water.

In cultivating the soil, the skilful farmer will be particularly anxious to guard against two evils; one of which is the too great accumulation of water at any given point, and the other a deficiency of water on any part of his farm. Some soils are so retentive of water or are furnished by springs in such quantities, that without care and the application of such labor to prevent it, the vegetation is defective, lacks substance, sours and moulds readily, and in such a state is positively injurious to animals that feed upon it. On the contrary, others are so porous, that water will not remain long, on, or in them, and the skill and resources of the husbandman are fully put in requisition to supply this natural deficiency. Water itself does not enter into the composition of plants, but they cannot exist for any length of time without it. It holds their food in solution; by its circulation in every pore of the plant it distributes nourishment to every part, and when the earth and salts are taken up and deposited in their proper positions, the water is carried off by evaporation from the leaves, which in this, as in other things, perform the offices of the lungs. Since then water is the medium through which plants receive their food, its proper distribution to the plants it is destined to supply, is a matter of the first importance to the farmer.

Where water exists in too great quantities whether in consequence of the natural tenacity of the soil, or the flow from springs, the obvious and proper remedy is by draining. There are few farms in our country where more or less draining might not be advantageously adopted, yet even the merest apology for a drain is not to be found in more than one in a thousand. Marshes and springy places abound, producing nothing but flags, coarse grass, or mere bogs; and these are suffered to exist in such a state year after year, when a few days of labor, expended under a knowledge of taking levels, which any farmer may possess, and every qualified machanic does, would remedy the evil at once and forever. Places which no animal can approach without danger of being mired, are thus rendered solid and capable of cultivation; the richest of soils is brought into use, and can be made available by removal to any point desired;

and the water collected by the process of draining not unfrequently can be made useful for irrigation, or for supplying a watering place. What is called surface draining is generally fully sufficient to cure such places, though where ploughing is intended, covered drains are undoubtedly preferable. Sufficient directions have heretofore been given in the Farmer, to enable the cultivator to construct either kind; and when the necessity of freeing the soil from a superabundance of water shall be understood, it is to be hoped such a variety of pond holes, swamps, marshes, and spring spots, will not disfigure and render difficult of cultivation, so many of our otherwise excellent farms.

But on many farms there is a deficiency of water for the necessities of vegetation, and in this case the skill and capital of the farmer must be taxed to procure a supply; or render what can be had available. It is not of water for the purposes to which streams are usually applied that we now speak; it is only of that necessary for the purposes of furnishing food to plants. It is on what are called *dry farms* that irrigation, or the artificial watering of lands, is most necessary and most successful. Here, where plants are suffering for moisture, the farmer will be as anxious to provide the water, as to subtract it where found in large quantities. To do this effectually the smaller streams, such as collect from springs or rise in marshy places, should be turned from their natural channels, and made to flow in artificial courses to those points where water is most needed. We have seen a small brook descending from the hills, conducted in a trench prepared for its reception, and graduated so as allow a gentle current, carried more than half a mile above and along the margin of a gravelly plain, used for meadows, and where most required, allowed to flow over the land, and at least doubling the quantity of hay produced. Water from such courses may be let on, or shut off readily, and the extremes of drouth or moisture be easily avoided. By managing the water of a springy place in this way, first collecting the water by draining and then conducting it to places where it is wanted, two evils are corrected at once, and a solid addition is made to the profits and actual value of the farm.

In this country, where, during the summer, the highways are the public pasture, and cattle, sheep, and swine in countless numbers, throng every nook that is unenclosed; and where during the winter, the public road is many a farmer's barn-yard, and the receptacle of his manures, it is evident the wash of the roads must be an object of importance to the cultivator. It is the fashion however, generally to conduct the water that collects in the highways, as far as possible, in deep worn gullies by the side of the carriage path, and throw it into some stream or swamp where the fertilizing principles such water must contain, is totally lost. Now the permanence and goodness of the roads, as well as the interest of the farms lying on them, require that the water collecting in them should be suffered to run but a short distance before it is diverted, and turned into the neghboring enclosures to enrich them. The rapid growth of grasses where water is so turned into the fields, is the most conclusive proof that it is highly charged with the principles required by plants to invigorate and perfect them.

It is thus, by correcting the tendency which water has to accumulate in some places, and leading to those spots naturally destitute of this indispensable requisite to vegetation, that art triumphs over nature, and skill surmounts the obstacles presented to successful cultivation. The most abundant resources are of little value, unless properly directed; and where nature has been less liberal, skill and industry, and a careful husbanding of the advantages she has afforded, will not unfrequently give to such sections the greatest eventual prosperity.

The Wheat Crop, &c.

The favorable weather for the last three weeks, has done much to allay the fears which the previovs dry cold weather had excited in regard to the wheat crop of this section. The following letter from our correspondent at Wheatland, one of the best farming towns even in the Genesee Country, is valuable for the information it contains in relation to the effects of the fly and the frost on fields sown at different periods. Our farmers have yet much to learn as to the best time of putting in their seed, which can only be learnt by a careful observation of the effects of the obstacles to its growth on crops sown at different times; and those who furnish the results of their investigations for publication in our agricultural journals, confer a public benefit which should entitle them to the gratitude of at least that numerous class who are too negligent to make such observations themselves.

Mr. Tucker—The wheat crop is coming forward rapidly—the heads are showing themselves—and the rains and warm weather for the last two or three weeks have very much improved the prospects on many fields. The cold and backwardness of last season, induced many farmers to commence sowing earlier than common; some commenced in August and the first week in September. The fly was very severe last fall on those early sowed fields—in some instances they nearly destroyed it, and many fields are so thin that they will not yield half a crop. Wheat sown the second and third weeks in September, on favorable ground, looks well; but where it was sown after that time it has been much injured by the thawing and freezing in March and April—so much so that many fields have been ploughed up. With these drawbacks, I am of the opinion we cannot have an average crop.

Barley is also coming forward rapidly, and never looked more promising. Where it was sown early, and on good ground, it is putting out its heads, and will undoubtedly make a good return. This valuable grain is gaining in the estimation of farmers, who find that it can be profitably used for other purposes than it has commonly been used for.

I would inquire of *Ulmus*, how he has succeeded with his Bees on the garret plan—whether they go on without swarming, and what is the yearly quantity of honey from each hive or colony, and what is the prospect of keeping out the Moth or Bee worm?

Wheatland, June 17th, 1837. Rawson Harmon, Jr.

Mr. Whitmarsh.—The *Hampshire Gazette* states that *The Silkworm* has withdrawn its charges against this gentleman, and that it now acknowledges its belief in the honesty of Mr. W. in the transactions relating to the sale of the Mulberry seed, palmed off as that of the *Morus multicaulis*; and the Gazette thinks it incumbent on the *Genesee Farmer*, to republish the recantation inasmuch as the original statement was copied into its pages. The number of the Silkworm alluded to has not reached us. If any one will send us a copy, and we find that Mr. Blydenburgh gives good and sufficient reasons for the change of his views in regard to the transaction alluded to, we shall copy his recantation with pleasure. We repeat, what we have before said, that we have no personal controversy with Mr. Whitmarsh. Our only object has been to protect the public from imposition; and we must confess, that though we have sought for some palliative—for some excuse for the conduct of Mr. W., we have not as yet been able to discover in the statements of himself or friends which have come to our notice, any explanation calculated to change the opinions we have heretofore expressed on this subject.

Syracuse.—The Journal of a Traveler lately republished in the Genesee Farmer *from the New York Farmer*, contained a remark respecting the neccessity of *drainage* to render some of the land near Syracuse fit for cultivation. This remark is considered "slanderous" by the Onondaga Standard. The writer of that Journal would not "slander" any person or thing; and if the Editor of the Standard will refer again to the article (copied in the Genesee Farmer of the 15th April,) we think he will not consider the language very exceptionable. Some of the most valued friends and correspondents of the Genesee Farmer reside in Onondaga; and we think they have had proof enough in our columns that we would not willingly publish any thing slanderous respecting their chief town, or any other place.

Mass. Agricultlral Society.—We publish today the *Premium List* of this Society, that the friends of Agricultural improvement in other states may see with what zeal this patriotic association pursues its objects; and while expressing our approbation and gratitude to its managers for their untiring perseverance for the advancement of agricultural skill and science, we cannot refrain from contrasting their efforts with those of the Agricultural Society of the "great and patriotic State of New-York." It is now more than five years since this institution was organized; and where is its Premium List? What has it done for the promotion of Agriculture? Where the evidence of its vitality?

The Great Error of American Agriculture Exposed, and Hints for Improvement Suggested.

BY THOMAS MOORE.

(*Continued.*)

Hitherto I have treated of the beneficial effects to be derived from *deep tillage abstractedly*, and no further than abundant corroborating proofs will substantiate; but believing as I do, that if ever a material reformation takes place in *American agriculture*, that this will be the *basis;* I am induced to offer a few hints for consideration, respecting the probable advantages that may be derived from the practice, when combined with other necessary improvements; such as a due attention to manures, rotation of crops, &c. &c.

By a proper attention to these things may we not reasonably hope for the speedy fertilization of thousands of acres of exhausted old fields, that now will not pay for enclosing? To effect which I would propose, that the system by which they have been reduced to their present state of *poverty*, be in all points *reversed*. They have been reduced by shallow ploughing, an *ill-chosen* rotation of crops, and a total neglect of *manure*. Let them be recruited by deep ploughing, a *favorable rotation, and all the manure* which the best management will afford them. My plan would be this; break up the ground in the fall, ploughing at least eight inches deep; if level, throw it into ridges; if hilly, begin at the base and surround the hill, if the situation will admit; if not turn a furrow down the hill and let the plough return light;* for if the furrows are attempted to be turned against the hill, it will not be effectually done, and the whole business will be thereby marred. In the spring, plough aad harrow as often as convenient, or the state of the ground seems to require; always keeping to the same depth: if a sufficient quantity of manure is in readiness, the last ploughing should turn in from 25 to 30 large cart loads per acre; then plant with potatoes; after they are dug in the fall, either sow down in wheat, and early in the spring red-clover-seed; or let it lie over winter, and sow in the spring, barley or oats and clover.

If manure cannot be procured the first spring, let not the iudustrious improver be discouraged; but instead of potatoes, substitute some *shading crop*, that does not require so much strength of soil; such as peas, beans or buckwheat. I have no doubt that if the foregoing instructions are attended to, on ground that has ever been tolerable, that one or other of these crops may be cultivated to profit: this will also better prepare the ground for the next year's operations, by which time it is presumed the cultivator will be furnished with manure to proceed as before mentioned. In planting potatoes on hilly ground, or any other crop set in rows, and requiring to be ploughed or hoed whilst growing, more attention should be paid to the rows being horizontal, than in straight lines, as being more favorable to derive advantage from hasty showers, and also to prevent washing. In most situations and soils it

*The hill-side plough may be used.—J. B. W.

will be found that the clover will be much improved by the use of plaster of Paris, as a top dressing; and ought not to be neglected when it can be procured.

If by these means a good swarth of clover is produced, I consider the land as reclaimed; for I know of no better preparation for a crop of wheat, than a clover-lay well turned, after being mowed two years; the wheat sown on the ploughing and harrowed in.

Lands once reclaimed by these means, will by a similar course of management, that is by *deep cultivation*, a *well chosen rotation*, and *manuring* as often as practicable, be kept in fine tilth with much *less labor* than in the present mode. May we not then expect by a proper attention to these interesting considerations, great improvements in the cultivation of Indian corn, tobacco, peas, beans, &c.? We have found by experience, that these crops particularly, require the soil to be kept open and clear of weeds during their growth; in order to effect these purposes, the common practice with respect to corn is, to plough and cross plough frequently, three or four inches deep, until about the time of tasselling or blossoming; in addition to which, many hill several times, and nearly all once at least: The other crops are mostly ploughed, and almost universally hilled. But provided we can attain these ends (viz. the destruction of weeds, and an open soil) by other means, are those practices rational? Any one who will be at the pains to search, may easily discover, that the roots of corn soon extend themselves a considerable distance from the hill; by the time the top is knee high, the roots are extended nearly from row to row (if not too frequently cut off by the plough) though so small as to be scarcely visible. Is there any good reason to suppose, that nature requires those numerous organs, prepared for the express purpose of supplying the rising plan with sufficient nourishment, to be so frequently mutilated, as must always happen in ploughing, thereby not only depriving the plant of that quantum of supply contained in the amputated vessels, but also of all future supplies by the same sources?

True it is, that above ground we frequently find it necessary, apparently to oppose the operations of nature in some measure, in order to bring her to act more consistently with our views. For instance, fruit trees, and many kinds of plants that bear their fruit upwards often project so many branches and suckers, that notwithstanding the fruit may thereby be increased in number, yet we find it necessary to lop off a part, in order that the whole of the nutriment may be applied to the remainder; improving the quality, and frequently increasing the quantity thereby. But that it is necessary to diminish the roots that supply the nutriment, I believe has never been proved by any experiment.

Yet nevertheless, we constantly see the good effects of frequent ploughings; the reason is obvious; in the common mode the ground becomes too solid in a few weeks, sometimes in a few days for the roots to penetrate, and therefore it is better for the plant, when all its vessels of supply are embargoed, to part with one half, if thereby admittance is obtained for the other half to act freely. So that it may be fairly said, in the culture of Indian corn, of *two evils*, we choose the *least*. The important question is, how shall we avoid *both?* May I not answer, by attending to the foregoing instructions?

A suitable rotation, and the necessary preparation of the ground before planting, will so far clear it of weeds, that one or two ploughings and as many harrowings afterwards, will complete that business; all of which may be done by the middle of the sixth month, without material injury to the roots, as the corn at that time is seldom more than a foot in height. If these ploughings are of the depth before mentioned, there will not be the least danger of the soil becoming compact for a few weeks, until the growth is so much increased, as almost completely to shade it; after which it will need no ploughing to keep it open. This effect will generally take place in this state about the middle of the seventh month; for it is to be remembered that in this mode, it may be planted much closer than in the common way; the number of plants not being estimated so much from the surface as from the quantum of soil employed, as before hinted; for instance, if one plant requires a yard square of soil, of 3½ inches depth, the same surface, will be more certain to bring to perfection two plants, when worked seven inches deep; experience having proved that in some particular rich deep soils, corn will admit of being planted four times closer than is usual, without suffering from a want of air. Thus it is probable, nay, experience has already reduced it to a certainty, that *half the ploughings* usually given to corn, may be made to produce *double the quantity* on the *same ground*. What an immense saving of labor! What an immense saving of land!

Much of what has been said with respect to corn will apply to the other crops; but as they are more generally *hilled*, I am willing to express a sentiment on *that practice* in general.

It has long been a matter of doubt with me, whether any kind of crop we cultivate, requires this mode of tillage, except it be on low grounds, merely to avoid too much wet; and the greater opportunity I have had of making observations, to ascertain the fact, the more I have been confirmed in the sentiment. I believe it will always be found that nature disposes plants to make the best of their situation; to protect their roots at such distances from the surface, and in such directions as are best calculated to extract their food from the surrounding soil: is it not then reasonable to suppose, that in removing the earth from the *extremities* of the *roots*, and heaping it about the *body* of the *plant*, we more or less *derange* the economy of *nature?* And instead of aiding we involve her in difficulties not to be surmounted, but at the expense of a part of her *vital secretions*.

I have examined the vines and roots of potatoes that have been much hilled, which plainly showed, that no less than three different sets of roots had been projected at as many different times, designed by nature to bear the fruit; the first and second having bulbs as large as peas or gooseberries; the third and nearest the surface bearing the burden of the fruit: These last springing from a part of the vine that must have been *above* the surface before the *first hilling*.

For notwithstanding the fibrous roots extend as deep as the fine open soil, the potatoes incline to lie about four or five inches from the surface. The shape of the hills or ridges, are also unfavorable to the retention of moisture. I have frequently seen potatoes dug that have been manured in the roots and several times hilled, which has been turned out dry, and nearly in the same crude state in which it was applied, not having received moisture sufficient for the purpose of fermentation. The best potatoes I ever had, were produced with scarce any hilling, the ground being kept open by other means; the same thing I have known to happen in the practice of others.

Having mentioned that within certain limits, exhausted lands may be reclaimed at half the expense that new lands are cleared, and also the quantity of manure that I apprehend necessary for the purpose, it may perhaps be expected, that I should say by what means such a quantity is to be collected, and also point out the favorable rotations before alluded to.

With respect to these much might be said, in addition to any thing I have seen published, especially on the subject of manures; but as they have already engaged the attention of many of our citizens, and as my present views are not to enlarge on subjects treated by others, but briefly to suggest a few things which appear to have escaped notice, or at least that attention I have believed their importance required; but recommend inquirers to some small tracts written in our own country (to wit) G. Logan on rotation of crops—J. B. Boardley on the same*—and Richard Peters on Gypsum.†

But as it may not be practicable for all to be furnished with these authors, I will endeavor to sketch the outlines of what I think good management in these respects.

In the first place, house as many of the stock as possible throughout the winter, always keeping them well littered. Cattle that are not housed should have all their food given them in the barnyard, which should be so constructed as to prevent any wash passing away from it; an excavation should be made in some part of it, and always well supplied with mulch of some kind;—such as refuse straw, weeds, corn-stalks, rich earth or leaves from the woods, or several of them together, in order to imbibe the soakings of the manure thrown out of the stables, and also that which lies on the higher parts of the yard. All kinds of refuse substances capable of being converted into manure, ought to be thrown into the yard: The manure should be carted out in the fourth month and the yard again littered. If a considerable part of materials remain unrotted when taken into the field it is not to be regretted, only let the quantity be the greater, and have it immediately ploughed in; for I am clearly of opinion, that the putrifying fermentation, can no where be carried on to so much profit as in the soil.

My management for two years past has been very indifferent, yet I have been enabled to manure one acre for every three head of grown horses and cattle, kept over winter, and nearly one from the hogpen.

The land it was applied to, with common cultivation without manure, would not have produced one barrel (five bushels) of corn to the acre; with the manure and tolerable cultivation, it produced six barrels. If it had been applied to land, already in tolerable heart, I believe the proportional increase would have been much greater. This year my management has been better, but far from perfect, yet I expect to manure nearly an acre for every two head, at least I am certain the thing is practicable.

The principles upon which good rotations are founded, are these; that the naked soil be as little as possible exposed to the heat of summer; that ameliorating crops, so intervene exhausting ones, as to prevent a speedy reduction of the soil, and that the preceding crop should prepare the ground for the next that is to succeed it without much labor.—Thus, for instance, a crop of beans or potatoes, prepares the ground for wheat, to be sown as soon as they are taken off: Indian corn or potatoes, prepares for spring-barley and clover; and clover prepares for wheat: Buckwheat may be sown on wheat stubble, which cleans the ground for corn with manure the succeeding spring. These may be varied as best suits the soil, situation, or market, always keeping the first principles in view.

Our soils inclining to stiffness, pasturing ought to be avoided as much as possible, and cutting and feeding green, substituted. The injury by treading on such soils, particularly when wet, is more than many are aware of. I have run a fence across a field set in clover, one side of which was afterward mowed two years, two crops each year; the other was pastured the same length of time, principally of beef cattle, which continued day and night, and consequently deposited their dung there; these divisions were both sown down in wheat, in the tenth month; the part that was mowed, with one ploughing about seven inches deep, and harrowed in: It was observable in the latter part of summer, that the part pastured, was become too compact to be produced by one ploughing and harrowing; it was therefore broken up in the eighth month; afterwards harrowed, then ploughed again about the same time with the other, sowed and harrowed in; the ploughing likewise about seven inches. At harvest, both sides of the fence were good, but the part that was mowed, much the best, I believe about 5 or 6 bushels per acre. (*To be continued.*)

*Since writing these remarks, I have been informed that J. B. Boardley has published a considerable volume on agricultural subjects; but not having seen any of his writings, except his sketches on rotation of crops, I can form no opinion of the merit of the others.

†I agree with this author, as to the liberal use of this manure, but have taken the liberty of offering a theory of my own, with respect to the manner of its operation, as will be seen in the course of this essay.

WINTER PRODUCTS OF A DEVON COW.—At our request, Abm. P. Holdrich, Esq. of Spencertown, had an accurate memorandum kept of the butter made from a Devonshire cow, which calved late in autumn. The result was, that from the 19th December to the 18th January, including both days, there was made from her milk fifty-six pounds of well worked butter, nearly equal to two pounds per day. The cow was fed with roots, hay, and buckwheat bran. Estimating it at 20 cents per pound, the butter made during the month, and in the depth of winter, was worth $11.20; and if we consider this the average product of eight months in the year, the agregate amount for that period would be $89.60. We need no better illustration than this, of the importance of keeping good animals, and of keeping them well.

COMMUNICATIONS.

Action of Frost and Circulation of Plants.

No. I.

The years 1835 and 1836, bid fair to take the precedence in the annals of frost and snow, over all that have preceded them within the memory of man. In the first, not a month passed in which frost did not visit many sections of our country; and the severe accumulated ones of September, gave the finishing blow to the vegetation of the year. Common field or garden vines, and the cornfields were the first to feel its influence, but the leaves of the corn were killed some twenty days before the main stems and the ear stalks were touched. The quantities of soft corn that filled our farmer's barns, proved beyond a doubt that the preservation and healthy action of the leaves is necessary to the perfection of the grain, and that in the practice of topping corn, especially if performed, as it frequently is, before it approaches maturity, the farmer suffers a serious loss. In 1836 the immense destruction of fruit and forest trees by the heavy snows of the first of October, and the manner in which the late crops were caught and extensively injured, will cause it to be long remembered by the farmer.

The gradual decrease of temperature for two or three of the last years, the prevalence of early and unseasonable frosts, the nearly total failure of the corn crop in many parts of our country, the extensive destruction of the less hardy trees and shrubs, that had become partially acclimated among us, and the injury sustained by all more or less from the severe cold, has induced farmers and others to observe somewhat anxiously the signs of the times, and to inquire whether the causes which have produced such results are of a nature likely to be permanent. The necessity of such observation and inquiry is obvious when it is remembered that a few more years like the past would effect a great if not a total change in the agriculture of some sections of the country; rendering hopeless all attempts at the cultivation of corn, and preventing all efforts for the growth of some of the more delicate and less hardy fruit and forest trees. A few more such summers would compel the abandonment of many important vegetables, for which substitutes would with difficulty be found. Few are aware of the difference in vegetable products a dimunition of four or five degrees in the average temperature of our years would create.

How is it that frost produces the effect on vegetation which is so often observed? That it causes vast destruction among plants, and the tender twigs of trees is obvious to all; how this is done can only be explained, if at all, by a reference to the principles of vegetable physiology, and particularly to the circulation of the sap. The cause of this circulation has been variously explained; but the methods stated by different philosophers have been somewhat contradictory, and none appear to be entirely satisfactory. That the sap ascends from the earth to the highest extremities of plants or trees, where, by the aid of the leaves, it is converted into food for them, cannot well be doubted; the difficulty is to account for its elevation. Some have supposed a contractory movement of the vessels themselves;—some have attributed it to the expansion of the upper vessels by atmospheric warmth;—and some have imagined the cause was to be found in capillary attraction. All these explanations appear to be beset with insuperable objections. The advanced state of science has shown that the two first cannot be true; and the last scarcely falls within the bounds of possibility. That water will rise a small distance in tubes of extremely small bore, is certain; but that it should rise from the same cause to the height of 200 or 250 feet, the height of some of our pines, remains to be shown. To avoid these difficulties philosophers have resorted to the irritability of plants, a quality resulting from their vital organization; and though as yet unable to explain the precise mode of operation, imagine they have found a cause sufficiently powerful and extensive to embrace all the phenomena connected with the circulation and growth of plants. We believe it is a maxim of the inductive school of philosophy, that where a cause is already in existence sufficient to fully explain and account for any effect or series of effects, it is idle and unwise to go farther; and we would respectfully ask whether the new agent of what is called electro-magnetism, does not furnish all the power required in the progress of vegetation.

From the aid which the microscope has given to researches of this kind, it appears that the pores of wood, by which the sap ascends, and by which it is distributed with its nutritious particles to every part, do not seem to be continuous, but closed at unequal distances, either by a contraction of the vessels themselves, or by a construction which is equivalent to a valve in the opening; thus permitting the sap laden with its treasures freely to ascend, while its descent by the same series of vessels is entirely cut off. In the heart wood of a tree little sap rises, the pores are filled, and the farther circulation is comparatively unnecessary; in the outer layers, or sap-wood as it is called, this process is carried on actively, while in the layers of the bark which still retain their vitality, the circulation is vigorous, but clearly in a contrary or downward direction. In the roots of a tree these obstructions to the return of the sap do not appear to exist, or at least at much greater distances. This is evident from the fact that the roots of some trees, such as the elm and the butternutt, are so porous that a candle may be blown out thro' a piece of considerable length, which is never the case with the wood of any part of the stem. A powerful lens shows that the sap in these sections of the ascending pores has a constant rotary motion, an effect rendered very plain in the plates that illustrate Roget's Animal and Vegetable Physiology. This peculiar structure of plants can be more clearly seen in a species of coarse grass or rush growing in moist land or meadows (the *Equisetum scirpoides* I think) than in any other plant with which I am acquainted, and from its peculiar transparency, renders almost the whole visible to the naked eye. The stalk is composed of joints some two and a half inches long, and is from the sixteenth to the eighth of an inch in diameter. When this stalk is cut about half way between the joints, its curious structure is disclosed. The centre, which in ordinary cases is occupied by the pith, is an open space, circular and occupying nearly one third of the whole diameter. This opening is empty. Around this centre and arranged with mathematical exactness are a circle of smaller openings, about the size of a knitting needle, and constituting the proper vessels or pores of the plant. These openings are filled with a colorless fluid, or water, and as the stem is nearly transparent, when uncut the motions of this fluid, occasioned by agitation or pressure, can be distinctly seen. It is evident that the space between each joint is a bundle of pores, terminating in small capillary tubes or closed by valves at the joints. That the course of the water in these vessels is upwards, and that return through the same vessels is impossible, is evident from the fact, that by the pressure of the thumb and finger, this sap can be forced upwards through the joint without apparent injury, unless carried so far as to rupture the vessels by compression; whereas it resists every effort to force it downwards without inflicting such injuries as the bursting of the outer covering of the cells, or the filling of the central opening.

All plants when young and vigorous, and that part of the wood of trees through which the sap circulates freely, particularly the tender twigs and slender branches of rapid growth, resemble more or less in the structure of their vessels and circulation of their sap, the grass or rush above mentioned; though perhaps few or none of them exhibit so distinctly this peculiar arrangement of their organs. It is a legitimate interence, therefore, that any cause which should destroy vegetable life in one case, would also be fatal in the other; and that the more tender and delicate the vessels were, the more certain would be the effect, and the more easily determinable the place of its action. W. G.

June 1, 1837.

Short Horned Bulls.

Mr. Tucker—In your valuable paper of the 3d of June, I saw the weight of a yearling bull calf at Fredonia, weighing 850 pounds, which it was thought it would take an Irish bull to beat. Not wishing to be outdone, and having the best breed of cattle, as we think, in this country, not Irish but English, we this morning weighed four of our Bulls, as follows:

Ajax, 5 years old, 2,300 pounds. *President*, 2 years and 6 months, 1,815 pounds. *Hector*, 18 months, 1,410 pounds. *Forester*, 1 year old, 925 pounds.

They are of the Improved Short Horned Breed, imported into this country some 14 years ago by Stephen Van Rensselaer, of Albany, from the stock of Charles Champion, England.

A question may arise as to keep. They have had no other feed than hay, except the last, which has had 3 pints of ground oat meal per day through the winter.

If you think the above worthy of a place in your paper, it is at your service. Sanford Bennett,

Stephen Van Renselaer farm, 2 miles north of Albany.

Watervliet, June 13th, 1837.

The Black Weevil.

It is your own adage, that short articles, for the Register, are of most value; and adopting your opinion for the occasion, I send you one of that character.

For several years, I sustained much mischief in my wheat, by the black weevil; but until I read Mr. Webb's communication to the Register, I was ignorant that it had extended its ravages into Virginia, and North and South Carolina. I do not doubt the efficacy of Mr. Webb's remedy. Mine costs less money and and trouble. When my granaries are cleared of grain, I, once a year, burn in them half a pound of pounded sulphur, closing doors and windows. For safety, I make a bed of sand on the floor, in which I put the sulphur in a stone, or earthern pan. Antecedent to this practice, I had sustained serious mischief from the black weevil; since, I have never seen one in my granaries.

Some of your correspondents insist, and I think you concur in the opinion, that proper names to articles would give increased value to the Register. To this, I do not entirely agree. I suppose you have no correspondents who do not trust you with their names; and though no one would consider you responsible for erroneous theories, I have deemed you responsible for the truth of facts. If proper names were required, it would cut off some beneficial communications. There are a class of men, who have no inclination to see their names in print. There are others, who, not having entire confidence in the purity of their style, and the correctness o their orthography, would be unwilling to subject themselves to the scourge of Doctor Syntax, a gentleman, who held, I believe, a residence in Virginia. The love of writing is a dangerous thing. I have known some half witted, half educated gentlemen, in Maryland, who would have got on tolerably well, but for their unhappy propensity to scribbling over their proper names. Modesty is the crown of many virtues, in which patriots, from the days of Cicero, to the present, have been sadly deficient. Being a retired farmer, and not a patriot of the current stamp, I have no disposition to blazon my name as the conqueror of the black weevil, but I do require that Virginians, North and South Carolinians, and all others, who, with my arms, shall subdue this pestilent enemy, to make their acknowledgments in the Register, that they owe the victory to a farmer of

The Eastern Shore of Maryland.

[*Farmers' Reg.*

Dandolo's Laboratory.

As many silk growers are about commencing operations, and are making preparation for the erection of cocooneries, or laboratories, as they are called in France and Italy, it is important they should have before them all the information in relation to their construction, which the long experience of other countries has furnished. We therefore give them a description of the laboratory of Count Dandolo, an Italian silk grower, in the hope that it may be useful to them in deciding upon the plans and arrangement of their buildings, fixtures, &c. It will be noticed that the laboratory described is a large building, and adapted to the wants and convenience of a silk grower on a large scale; yet it may be reduced in size, to the accommodation of a smaller operator without destroying its plan or proportion, should they be considered worth preserving. The

great objects aimed at, are convenience, the preservation of a proper degree of temperature, and the free circulation of air. The former and latter of these should be kept in view in the construction of an American cocoonery.

"My laboratory," says the Count, "is constructed to contain twenty ounces of eggs of silk worms, [800,000]. It is 30 feet wide, 77 long, 12 feet high, and, when reckoned to the top of the roof, 21 feet high. There are six rows of tables or wicker trays, about two feet six inches in width each, placed two and two, with four passages between them, each three feet wide. Posts are driven in between the trays, and strips of wood are fastened to the posts horizontally, to support the trays, between which there is a space five inches and a half to allow the air to pass freely. There are thirteen unglazed windows, with Venetian shutters outside. and paper window frames inside ; under each window, near the floor, ventilators, or square apertures, of about 13 inches, that they may be closed by a neatly fitted sliding pannel, so as to permit the air to circulate, and blow over the whole floor. When the air is not wanted, the paper frames may be closed. The Venetian shutters may be opened or shut,at will. When the air is still, and the temperature of the interior and exterior is nearly equal, all the window frames may be opened, and the Venetian shutters must be closed.

There are eight ventilators, in two lines, in the floor and in the ceiling, placed perpendicularly, opposite to one another, in the centre of the passages between the hurdles or trays. They have sliding pannels made of a thick glass, to close them, and to admit light from above. As the air of the floor ventilators ascends, and that of the ceiling ventilators descends, it must pass through the trays. There are, also, other six ventilators, made in the floor to communicate with the rooms beneath. Three of the thirteen windows are at the end of the house; and at the opposite end, are three doors, constructed so as to admit more or less air, as may be required. These doors open into another hall, 36 feet long and 30 wide, which forms a continuation of the large laboratory, and contains trays sufficiently raised to facilitate the care of the worms. In this hall, there are six windows, and six ventilators under them, nearly on a level with the floor, and also, four ventilators in the ceiling. There are six fire places in the great laboratory, one in each angle, and one on each side of the centre, and a large stove in the middle ; glass oil burners, that give no smoke, are used to give light at night. Between the hall and the great laboratory, there is a small room, having two large doors, the one communicating with the laboratory, the other with the hall. In the centre of the floor, there is a large square opening, which communicates with the lower part of the building. This is closed with a wooden folding door: this aperture is used for throwing down the litter and rubbish of the laboratory and for admitting Mulberry leaves, which can be drawn up by a hand pully."

To this description of the laboratory of Count Dandolo, an American writer on the subject of silk growing adds :—" In the United States, the house erected expressly for the purpose of rearing silk worms,should be placed in the coolest and most airy situation attainable, and in the shade of trees, if possible, because it is always in our power to increase the heat of the apartment, when necessary, by means of a stove or open fire place ; but it is not so easy to guard against a sudden increase of the heat in the weather, and which may nearly defeat the labors of the season, if it should occur in the fifth age, when the worms are nearly done eating." —*Silk Culturist.*

Lime.—Lime is said to be an excellent remedy for burns or scalds; equal proportions of lime water and any kind of oil, made into a thin paste, if immediately applied and repeatedly moistened, will speedily remove the effects of a burn ; and and if applied later, even when the blister has risen, the remedy never fails. This paste has been known to stop effusions of blood, when almost every thing else had failed. Dry lime thrown into a flesh wound is always healing.—*New Era.*

The distillery at Belfast, Me., is being changed into a grist-mill.

From the New England Farmer.

Massachusetts Society for Promoting Agriculture.

Premium List—1837.

The Trustees of the Massachusetts Society for promoting Agriculture, believing that the interests of Agriculture will be better promoted by postponing the Cattle Show, and reserving a part of their funds to enable them at a future time to bestow upon some objects more liberal Premiums, have concluded to omit the show this autumn, and now offer the following

PREMIUMS.

The best cultivated Farms.

For the best cultivated farm, $150 00
For the next best cultivated farm, 100 00

The farm to consist of not less than 70 acres, exclusive of woodland. The owner or tenant, to entitle himself to either of the premiums, must state in writing, the nature and quality of the soil ; the proportions suitable for tillage, mowing and pasturing, respectively, and especially, the quantity of irrigated meadow or low land, which is never tilled or ploughed, with as much particularity as he is able.

The number of acres planted the present year with corn, potatoes and other vegetables.

The number sowed with winter and spring grains, and other vegetables, specifying the several kinds, and the number of acres planted or sown with each.

The quantity and kind of Manure used for each crop, and the times and manner of applying it. The quantity and quality of each crop.

The number of acres mowed the present year, what proportion of upland, what meadow land that had never been ploughed, the kind of grass and quantity of hay, according to the best of his knowledge, judgment and belief. His manner of dressing and manuring his meadow or mowing, and laying down his tilled land to grass, the kinds of grass seed, the quantity of each, the time of the year it is sown, and whether with oats, barley, or other grain, or alone.

The form of the barnyard, and manner of connecting and making manure.

The number of oxen, cows and young stock, horses and sheep,kept on the farm through the year,and the quantity of butter,and cheese made,distinguishing the new milk from the other cheese, and the breed of cows, whether foreign, mixed or native.

The number of swine kept, and the quantity of pork made.

The labor employed in carrying on the farm, and the quantity of ardent spirits (if any) consumed.

As it is deemed important to ascertain the best rotation of crops, it is desired that the applicants for those premiums will state the kind of crop, if not able to state the quantity raised on the several and respective pieces of tillage, and mowing land described in their statements for the year next preceding the present one.

The manner of feeding his stock in winter season; whether he gives his milch cows or oxen, grain or roots of any kind, and the kind and quantity.

His treatment of calves he intends to raise ;—whether he lets them continue to suck, or weans them soon after calved—how soon—what food he gives them, and how long he continues to feed them.

If it be a sheep farm, the manner he treats his sheep in the winter; whether they are housed or left out in the yard, the food given them and the time they generally lamb.

The Trustees think that the utility of this premium materially depends on the particulars above mentioned, being stated with as much exactness as the nature of the business will admit; they do not, however, expect that the mowing, pasture or tillage land, should be actually surveyed or the hay weighed; but only that the applicant should ascertain the quantities with as great accuracy as he can without, and state them according to his best judgment and belief. They think it proper further to observe,that while they expect a substantial compliance with the terms above specified, an omission or want of exactness in some of the less important particulars, will not preclude an applicant from the premium, if on the whole his farm shall appear to be so well cultivated as otherwise to entitle him to it. The trustees to be at liberty, in all cases, before they award the premium, to visit by a committee or such other persons, as they may appoint, the farms of the applicants, if they deem it expedient.

The statement is to be signed by the applicant, but he is not required to swear to it. The Trustees will rely upon the veracity of the applicant, and give the same credit to his statement as they would if it were under oath.

N. B. Claims to be addressed to Benjamin Guild, Esq., in Boston, (post paid) before the first day of October next ; and the evidence to support them to be sent as above, on or before the 1st day of January, 1838.

Rotation of Crops.

For the best rotation of crops on the same land, not less than two acres, for the three or four year, in succession, commencing when it is in grass, $75,00.

Premium to be claimed in Dec. 1838 or 1839.

It is expected the applicant will state the quality and condition of the land, when he first ploughs or breaks it up ; the manner of preparing it each year, specifying the times of ploughing, the quantity and kind of Manure used, the seed, whether potatoes, Indian corn, or other grain, planted or sown, and the kind and quantity of grass seed, the time when sowed, and whether with grain or alone, and the quantity of produce each year, including the last. The applicant's own statement, signed, but not sworn to, is all that will be required.

Growing and Ploughing in Green Crops.

For the best way of improving and enriching a poor or exhausted soil, without manure, by growing and ploughing in green vegetable crops, $75 00.

Premium to be claimed in Dec. 1838 or '39.

The applicant is expected to state the quality and condition of his land when he commences, and particularly his manner of preparing and cultivating it each year,the times of ploughing,the kind and quantity of seed sown or planted, and especially the time and times he ploughs it for a crop to turn in, the kind and quantity of grain or grass seed sown, and the time and manner of ploughing the crop in, the quantity of produce, if any, either year, and if laid down to pasture, the quantity and quality of the grass. The experiment to be made on no less than two acres. The applicant's statement under his hand, is all that will be required.

Mixed or Compost Manure.

For a compost of stable manure, and meadow or pondhole mud or muck, with or without lime,as the applicant pleases, which, with the smallest portion of stable manure and lime, if used, shall approach nearest to clear stable manure, in strength and efficacy in producing crops, $50 00

Premium to be claimed in Dec. 1838.

In order to test the comparative strength and efficacy of the barn manure and the compost, it is proposed that a piece of land, not less than an acre, shall be prepared in the same manner, and divided in equal halves for quantity and quality, and that stable manure shall be used on one half, and compost in the same manner on the other, and that corn or potatoes shall be planted in each, and that both shall be ploughed, hoed and treated in every respect alike, and an accurate account of the quantity and quality of the crop on each shall be kept, and that the claimant of the premium, in his application, shall state that he has proceeded in the manner above described and the result.—If lime is used, the quantity and quality, whether slacked or not slacked, must be stated. A statement, signed by himself and one other reputable person, not under oath, will be required.

Vegetable and Grain Crops.

For the greatest quantity of Carrots on an acre, $30 00
For the greatest quantity of ditto on half an acre, 15 00
For the greatest quantity of common Beets on an acre, 20 00
For the greatest quantity of ditto on half an acre, 10 00
For the greatest quantity of Mangel Wurtzel or Scarcity Root, on an acre, 30 00
For the greatest quantity of ditto on half an acre, 15 00
For the greatest quantity of Parsneps on an acre, 20 00

For the greatest quantity of do. on ½ an acre, 10 00
For the greatest quantity of Ruta Baga on an acre, 30 00
For the greatest quantity of do. on ½ an acre, 15 00
For the greatest quantity of common Turneps on an acre, 20 00
For the greatest quantity of do. on ½ an acre, 10 00
For the greatest quantity of Onions on an acre, 20 00
For the greatest quantity of do. on ½ an acre, 10 00
For the greatest quantity of Cabbages on an acre, free from earth when weighed, 20 00
For the greatest quantity of do. on ½ an acre, 10 00

To the person, persons, or corporation, who shall raise the greatest quantity of Sugar Beets, by the acre, on not less than two acres, which shall be manufactured into sugar, in the years 1837, '38 and '39, giving a particular account of the soil, and his manner of sowing, cultivating and gathering the Beets.

A premium of $100 each year.

To the person, persons, or corporation, who shall manufacture from the sugar beet, sugar in the greatest quantity and of the best quality, in the years 1837, 1838 and 1839; giving a full and particular account of the process of manufacturing it.

A premium of $100 each year.

For the greatest quantity of Vegetables (grain, peas, beans excepted) for home consumption and not for sale; raised for the keeping of stock, regard being had to the size of the farm in proportion to the crop, and to the number of the stock kept; and also to the respective value of the vegetables as food, and the expense of raising the same, $30 00

For the greatest quantity of Indian corn on an acre, not less than 80 bushels, (75 pounds in the ear to be considered a bushel,) 30 00

For the greatest quantity of Wheat on an acre, not less than thirty bushels, 20 00

For the greatest quantity of Rye on an acre, not less than 30 bushels. 20 00

For the greatest quantity of Millet on an acre, cut and cured for hay, not less than three tons; the claimant giving evidence of the time of sowing, the quantity of seed sown, and the quantity of hay produced, 20 00

For the greatest quantity of dry Peas on an acre, 25 00

For the greatest quantity of dry Beans on an acre, 25 00

For the greatest quantity of Mustard Seed, not less than 20 bushels, 20 00

For the greatest quantity of dressed flax, not less than 500 lbs. from an acre, 20 00

For the greatest quantity, and best quality of Hemp on an acre, 40 00

It is to be understood that the quantity of land specified above, is, in each case, to be one piece. And the claimant of any of the above premiums, shall, with one other person, make a statement according to the best of their knowledge and belief, to the following particulars, and shall obtain a certificate of the measurement of the land by some sworn surveyor.

The particulars are—

1. The condition of the land in the spring of 1837.

2. The product, and general state of cultivation and quality of manure used upon it the preceding year.

3. The quantity of manure the present season.

4. The quantity of seed used.

5. The time and manner of sowing, weeding, and harvesting the crop, and the amount of the product ascertained by actual measurement, after the whole produce for which a premium is claimed, is harvested, and the entire expense of cultivation.

6. Of Indian Corn, the entire crop of the acre to be offered for premium, is to be measured in the presence of the claimant, who is to sign the statement made by the person or persons, who did harvest and measure it; and to be measured between the 15th of Nov. 1837, and the 1st day of Jan. 1838.

7. At least forty bushels of the vegetables, for which a premium is claimed, (except onions and common turneps) are to be weighed, and fifty-six pounds, free from dirt will be considered as a bushel.

Experiments, Discoveries and Inventions.

For the experiment of turning in Green Crops as a manure, on a tract not less than one acre, and proving its utility, giving a particular account, in writing, of the process and the result, $50 00

For an effectual and satisfactory mode of extirpating the Worm that attacks the locust tree, 100 00

For a new, effectual and satisfactory mode of extirpating the Borer which attacks the apple tree, 50 00

For any newly invented Agricultural Implement or Machine, superior to any designed for the same use, a reward not exceeding twenty dollars, according to the importance of the invention, 20,00

To the person who shall prove to the satisfaction of the Trustees, that his mode of rearing, feeding and fattening neat cattle is best, 20 00

For the greatest quantity of raw unmanufactured Silk, not less than 10 lbs. raised by the claimant, and presented before the 1st of Dec. 1837, 20,00

Trees and Live Hedges.

For the best plantation of White Oak Trees, not less than one acre, nor fewer than one thousand trees per acre—raised from the acorn—not less than *three* years old, and which shall be in the most thriving state on the first day of September, 1837. 50 00

For the best plantation, not before offered for premium, of White Ash, Larch and Yellow Locust Trees, each not less than one acre, nor fewer than 1000 trees per acre, to be raised from the seeds, and which trees not less than three years old, shall be in the most flourishing condition on the 1st of Sept. 1837, 25 00

For the best Live Hedge, not less than 50 rods, which shall be in the most thriving state in 1838, 30 00

Claims for the best plantation of Trees above-mentioned, together with the proper evidence, must be delivered to Benjamin Guild, Esq., in Boston, free of expense, on or before the 1st day of Jan. 1838.,

Claims for the premiums on vegetable and grain crops, and experiments and inventions, together with the evidences required, are to be in writing, and sent free of expense, to Benjamin Guild, Esq. in Boston, Assistant Recording Secretary, on or before the first day of December next, and they will be examined by the Committee, previous to the 6th day of December.

It is understood, that whenever, merely from want of competition, any of the claimants may be considered entitled to the premium, under a literal construction; yet, if in the opinion of the judges, the object so offered is not deserving of any reward, the judges shall have a right to reject such claims. Persons to whom premiums shall be awarded, may, at their option, have an article of plate, with suitable inscriptions, in lieu of the money.

In cases where the pecuniary premiums are offered, the Trustees may, having regard to the circumstances of the competitors, award either the Society's gold or silver medals, in lieu of the pecuniary premium annexed to the several articles.

That if any competitor for any of the Society's premiums, shall be discovered to have used any disingenuous measures, by which the objects of the Society have been defeated, such person shall not only forfeit the premium which may have been awarded to him, but be rendered incapable of being ever after a competitor for any of the Society's premiums.

Time of paying Premiums.—The treasurer will attend on Thursday, the 7th of December, at 12 M. to pay all premiums awarded.

All premiums not demanded within six months after they have been awarded, shall be deemed to have been generously given to aid the funds of the Society.

By order of the Trustees.

JOHN HEARD,
WM. PRESCOTT,
PETER C. BROOKS,
E. H. DERBY,
JOSIAH QUINCY, Jr. } *Committee.*

April, 1837.

From the New York Farmer.

Agricultural Tour.—No. 5.

To Lewis F. Allen, Esq. of Buffalo, well known as eminent, among the intelligent and spirited agriculturists in New York, I am much indebted for various polite attentions, and much agrieultural information. Mr. Allen is spiritedly engaged in endeavors to imprave the live stock of the country; and I had the pleasure of seeing in his possession several very fine animals of the improved Durham Shorthorns, which certainly did great credit to his management, and his skill in their selection. I will not undertake to descrive them particularly, as I hope that he will himself in due season favor the public with his success and opinions in this matter. The samples of this stock in his possession are of high pedigree and fine promise: and I am particularly anxious that by some continued and exact observations he should determine the dairy properties of his cows. He thinks highly of them in this respect; but in a mattet which can be easily tested, we want accurate experiments and observations. Of his improved breed of swine, I can speak in the highest terms. They are not of the largest class, but their extraordinary thrift and admirable forms place them among the best that have fallen under my notice.

Mr. Allen is the general superintendent of the establishment at White-Haven. The saw mill at this place is an interesting object of curiosity. It is one hundred and fifty feet square; it drives six gangs of saws, and two single saws by a steam engine of one hundred hundred horse power. Eighteen cords of wood are required per day for supplying the engine. Besides the timber on the island large quantities of pine are brought from Canada and sawed at the mill. Their fine timber is in quick demand at Buffalo, and in the vicinity, and their oak timber is exported to the Atlantic States. The frames of several large vessels of from 400 to 700 tons have been sent to the sea-board.

Acounts of the city of Buffalo, hava within a few years been so much before the public, that I shall do nothing more than to express my admiration of the rapid growth; the increase of population and the rise in the value of property, of this queen of the West. She is destined to still farther increase; and looking back upon ber almost magical advances for the last few years. it is not easy to conjecture the limits to which her business may hereafter be carried. The land in the immediate neighborhood of Buffalo is not under cultivation: and compared with the demand and the intrinsic resources of the country, the meagre and inferior condition of her meat, vegetable, and fruit market is matter of just surprise. It seems impossible that it should long remain so; and the universal complaints on this subject, and the erection of large and handsome market houses will undoubtedly contribute to its improvement. The floating character of the population has undoubtedly retarded these improvements; the fever of speculation, which has been more violent in no place, has directed the attention to more exciiing and engrossing objects, and the extraordinary and to those, who have not witnessed it, the almost incredible influx of strangers, emigrants, and adventurers has extended the demand beyond the present ability to supply.

A large tract of land in the immediate neighborhood, eightean miles in length and seven in breadth is held by the Seneca Indians. This great tract containing 49,000 acres. as seen from the road which passes through it, embraces much land of the very best character. At present not much of the land is cultivated; and though there are some striking exceptions, the cultivation is in most cases very imperfect and slovenly. In some instances we saw tidy frame houses, neat enclocures, and the front yards ornamented with flowers. The Indians seem every where to be an indolent and improvident race and unwilling to do more than procure a bare subsistance. Their wants in general are few, and their endurance under hardship and privation well known. Their appearance is in general squalid and disgusting. They are constantly to be seen in the streets of Buffalo, where they bring their baskets, their ornamental work, their reticules moccasins, and slippers made of leather and inwrought with beads, to sell; and likewise berries and herbs. They stand about the streets, and stroll from one place to another gazing in stupid inanity. They are harmless and

not giving to quarrelling, but do not always understand, at least are not always wise observers of that great distinction in civil society, of *meum* and *tuum*. The men are a fine tall race, muscular and well proportioned; the women short and in general extremely ugly; though in this matter they do not fall very far below the lowest class of Swiss and German women, who are to be seen constantly about the streets.

These Indians are extirely in the power of the State; and in my opinion ought to have been treated precisely like ignorant and helpless children.—The State should maintain among them competont guardians and agents; and should compel them by fine, if it were practicable, and if other inducements failed, to clear, sow, build, enclose and render their lands productive, and their condition comfortable, vnder a perfect assuiance that the tenure of their improvements should be secure, and they should enjoy the fruits of their labor; instead of encouraging them, as is obviously too often the policy, in idleness, wretchedness, and vice, in order that they may become easily in the end, dispossessed of their territory or their race itself be extinguished. One great bar to the improvement of their condition arises undoubtedly from the custom prevailing among them, by which all the improvements made by any one, with all his personal property of every description, instead of giving at his death, by his will, to his squaw or children, in that event reverts to the tribe; and is scattered among the community. The great principle of accumulation, the right of property, and the power of controling and transmitting that property according to our pleasure a death, though principles violently assailed in these days of Agrarianism, and often in their operation productive of apparently unequal and unfortunate results, are notwithstanding, of the highest moment to the virtue of individuals, and the general welfare of the community.

There are some agricultural improvements in the vicinity of Buffalo, on the farm of Hiram Pratt, Esq. which are capital and deserve particular notice.—His farm lies on the shores of the Lake, and an extensive tract of bog, which was constantly filled with water from the Lake, has been drained; the waters in a great degree excluded, drains cut in various directions with perfect neatness and by skillful hands, the bushes and stumps extracted, and a meadow of a hundred acres extent, brought into grass; and presenting, I must admit, the most successful and beautiful improvement thst my eyes has ever rested upon. The process has occupied but a short time and, compared with the ualue and productiveness of the redeemed land, has been executed at small expense; and at an outlay, which will be immediately returned four fold. The growth of the second crop of grass upon it, which was all that the season permitted me to see, was most luxuriant; and the land is brought into condition for other crops to be cultivated with advantage. I have had only to regret, that Mr. Pratt's unusual engagements at the time, prevented his giving me that detailed account of the process and expenditures, which I should have been glad to lay before the readers of the New York Farmer. The almost unsurpassed fertility of this deep alluvion' when the waters are taken from it, and the immediate vicinity of a quick market for all the produce, which can be gathered from it, would jusiify almoet any expenditure for the reeemption of this land. The Process is still going on, and large adjoining tracts are to be cleared, drained, and subdued.

The trees on the unclcared land bordering the turnpike, and from four to eight miles from Buffalo, in height and diameter surpass any thing that I evr witnessed. Thes are chiefly elm' white oak and white wood intermixed; and are of most singular beauty and magnificence. Similar remarks apply to many of the forests of this western world; and those of us, who have been accustomed only to the stunted growth of more northern and less fertile soils, may be allowed to express our surprise, may not add the enthusiasm of our admiration, coupled with deep humility, when standing among these mighty and untouched forests; and looking up to the spreading tops of these magnificent plants, these noble tenants of the soil, who have survived the storms and decays of centuries.

I am unwilling to quit Buffalo, without alluding to what I will not say the tide, but the torrent, the rushing flood of emigration, pouring itself westward.—During a protracted stay of several weeks at Buffalo, it seemed "to cease not," day nor night. Two, three, and sometimes five steamboats left Buffalo daily, for the upper shores of the Lake, beside other vessels; and all of them carrying their hundreds and hundreds. I have been often asked since my return, if these were not principally foreigners. I can only answer that of those whom I saw there was but a small sprinkling of Irish, and comparatively few Swiss and Germans. The great majority were New-Yorkers and New England men, of the best class of yeomanry; respectable in manners and appearance, and of substantial condition and equipments. Such a population, especially migrating as is often the case in companies, and I may say villages, are not compelled to pass through the *chrysalis* state; but commence immediately with all the advantages and improvements of an advanced condition of society. H. C.

Swine.

The Hog is one of the most valuable domestic animals, and when well managed contributes essentially to the profits of the farm. He devours, and turns to profit, the refuse of all eatable things. But the hog differs, in the return which he makes in flesh for the food he consumas, as much as the ox or sheep. The great point in all is to produce the most marketable flesh from the given quantity of food. A good pig is judged therefore, by the same criterion as neat stock. "Depth of carcass, lateral extension, breadth of the loin and breast, proportional length, moderate shortness of the legs, and substance of the gammons and forearms, are considered great essentials. In proportion as the animal is capacious in the loin and breast, will be generally the vigor of his constitution; his legs will be thence properly extended, and he will have a bold and firm footing on the ground, to which, however, it is farther necessary, that his claws be upwright, even and sound." A short handsome, sprightly head, with light pointed pendulous ears, are also considered good indications by Lawrence. The best breeds are often thick skinned and thin haired; but the skin is tender, gelatinous, and easy to masticate. It is an unfavorable indication when the head is hung down, the mouth approaching the earth like a fifth leg, and when the flanks heave and are hollow."—most of the approved breeds have been produced by a cross with the China boar. Good breeders insist that the sow should not produce pigs before she is ten months old, and that the male should not be used after he is five years old.

The pig is kept well in summer upon clover pasture, with the swill from the kitchen and dairy; and the fattening process may be completed, almost wholly, with the apples, pumpkins, small potatoes, soft corn and bran of the farm, properly prepared.

In regard to the diseases of hogs, of which a correspondent in Virginia, Mr. Goldsborough, asks information, we may remark, that prevention of disease is much easier than cure; as relief can seldom be afforded after the animal ceases to eat. As preventives, carbonaceous matters, as charcoal, rotten wood, and even permission to root in the earth, sulphur, antimony and madder are recommended.—They are subject, says Lawrence, to measles, bloodstriking, staggars, quinsy, indigestion, catarrh, peripneumony or inflamation of the lungs, called heavings. "As aperients, cleansers and alteratives. sulphur, antimony, andmadder, are our grandspecifics, and they are truly useful. As cordials and tonics, tracle and strong beer, iu warm was, and good peas or corn meal and polard (shorts.) In measlas, sulphur &c. and if the patient requires it, give cordials now and then. In staggers, bleeding, fresh air, and perhaps nitre. In catarrh, a wrrm bed, and warm cordial wash; and the same in quinsy, or inflamamation in the glands or troat. If external suppuration appear likely, discharge the matter when ripe, and dress with tar and brandy or balsam. The heavings, or unsoundness of the liver in lambs, is sometimes found to be hereditary; there is no remedy. This kisease in pigs is often ihe consequence of colds from wet lodgings, or of hasty feeding in a poor state; in a certain stage it is gighly inflomitory and without remedy. Uucrion with trlin oil, and the internal use of it, have been sometimes though beneficial."—*Loudon.*

Berkshire and China Pigs for sale.

THE subscriber has a considerable number of the pure Berkshire and China Pigs on sale at his residence on the Niagara river, 2 miles below the *B*lack Rock mills. *He* has also crosses of the *B*erkshire and China, and the China with the long English breed which are equally quiet in their habits, and possess the same tendency to fattening as the former, and have much the advantage in size. The character of these breeds are so well known throughout the state that any description would be superfluous; they are the choicests breeds in England, and the only kind used, by their best farmers, and it is believed the same quantity of food will make from 25 to 75 per cent. more pork in these hogs than if fed to the ordinary breeds.

PRICES.

Pure China or cross of China with the long English per pair at 4 weeks old,	$12 00
do. do. do. 6 weeks old,	15 00
Cross of China & Berkshire, perpair at 4 weeks old,	14 00
do. do. do do 6 do	18 00
Pure Berkshire, do. 4 do.	15 00
do. do. 6 do.	20 00

Communications made through the post office, should be directed to Buffalo.

june3tif A. B. ALLEN.

Valuable Works on Gardening.

THE YOUNG GARDENER'S ASSISTANT—containing practical directions for the cultivation of Vegetables, Fruits and Flowers. By T. Bridgeman, seedman and florist, New York—seventh edition, improved. Price $1.

THE FLORIST'S GUIDE—containing practical instructions for the cultivation of Flowers. By the same author. Price 37 1-2 cents.

THE KITCHEN GARDENER'S INSTRUCTER—containing ample directions for the cultivation of culinary vegetables, herbs, &c. By the same author. Price 37 1-2 cents.

For sale by REYNOLDS & BATEHAM,
May 20. Rochester Seed Store.

2.000 LBS. Ruta *B*aga, English Turneps, and Mangel Wurtzel seed, just received from England, and for sale at reduced prices, at the English *S*eed *S*tore, 62 *B*uffalo st. KEDIE & HOUGHTON.
april 29

Rochester Seed Store—*Extra.*

OWING to their excellent facilities for procuring seed of American growth, as well as importing such as are found to mature better in other climates, the proprietors of this establishment are enabled to offer their present stock at very reluced prices, particularly *English* seeds.

Their present assortment of the growth of 1836 is very extensive, and was raised in the most careful manner by respectable seed growers in this country, or imported from the rest foreign sources.

Encouraged by the liberal and increasing patronage they have hitherto received, they are determined to sell at as low prices as seeds *of equally good quality* can be purchased at any reputable seed store in the United States.

REYNOLDS & BATEHAM,
apr22 Arcade Buildings, Rochester.

Fruit Trees For Sale.

THE subscriber respectfully informs his friends and the public that he has for sale at his Nursery in Rochester, Monroe county, state of New York, a large quantity of Fruit Trees, grafted and innoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.
apr 15-tf

Greenhouse and Parlor Plants.

THE splendid collection of Ornamental Plants at the Rochester Greenhouse on Sophia street, are now in a fine healthy condition and ready for sale.

The assortment is very large and embraces many of the most rare and beautiful Flowering Plants, all of which are of easy cultivation and will thrive in a common sitting room with ordinary attention.

Depending on extensive sales and desiring that all who are fond of plants, should enjoy that innocent gratification, we have determined to sell at very reduced prices.

Many of the plants are now in bloom, and the public are respectfully invited to call and see them. The House will be open every afternoon. REYNOLDS & BATEHAM.
May 27.

Monroe Horticultural Garden & Nur-

SERIES, GREECE, MONROE CO., N. Y.

THIS establishment now comprises over 20 acres, covered compactly with Trees and Plants in the different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, splendid Pæonies, Double Dahlias, &c. &c.

Also, a large collection of Green House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired delivered on the canal one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant gratis, or may be had by calling at the office of the Genesee Farmer.

April 1, 1837. ASA ROWE.

British Manufactures.

It were but "faint praise," to say that in this great department of national enterprise and prosperity, Great Britain has no rival in the whole world. As it sometimes happens to a senior wrangler in the universities, not only that he has no equal, but no second, so in the vast extent and almost infinite variety of her fabrics, she holds a pre-eminence which defies all competition. The history of the unparalleled growth and extension of her manufactures, I shall leave to those who have more leisure than I can command, and confine myself chiefly to a glance at them in their present maturity and perfection. A bare enumeration of the minuter articles would occupy more space than it would be proper for me to devote to the whole subject; and would not, after all, be very interesting to the general reader. The three great branches in this department to which British skill, capital and industry are so successfully devoted, are the *metals*, *wool*, and *cotton*.

The most extensive *iron foundries*, perhaps, are at Colebrook Dale in Shropshire, at Mossborough in Yorkshire, and in the neighborhoods of Sheffield and Birmingham. These you cannot visit, without a high degree of awe and admiration. The ponderous machinery, shaking the deep foundations and revolving every moment by a power that you can scarcely persuade yourself is finite, make you tremble and sink into your own nothingness. In the immediate vicinity of Birmingham, for example, there are as many as *ten* sets or separate establishments of Iron works, each of which is said to have cost 50,000 lbs. sterling. I have not been able to obtain any very recent estimate of the annual value of the hard-ware and cutlery manufactured in Great Britain; but it must be very great. Notwithstanding all the labor-saving machinery which has been every where introduced, I was led to believe that at least half a *million* workmen are employed upon iron alone, including miners, forgers, and all the hands through which it passes, from the furnace and the rolling mill, to the lancet and the watch spring. I know not how better to speak of Birmingham and Sheffield, than to call them the two vast finishing and polishing shops of England, having innumerable apartments, from which an endless variety of useful and ornamental articles go forth to supply the markets of the world. But little of the rough and heavy work is done in either of those flourishing towns.—It is in the vicinity of each, that you see the evening sky lighted up, as if a city on fire, by the furnaces and forges from which they are supplied. How much we are indebted to those inexhaustible storehouses, for all that is beautiful and glittering, I need not spend a moment in showing. However proud and independent we may feel, in regard to the sharpening of our own wits, we should soon find ourselves in an awkward plight, if they did not send us needles, and grind our scissors and edge our razors.

The *woolen* manufacture of England is the next ancient, and next to cotton, the most extensive and valuable. It seems to have been brought over to the island by the Romans, but to have made very little progress till near the middle of the fourteenth century; and it was not till the reign of *Edward III.* that the manufacture of fine cloth was established on a stable foundation. At the close of the sixteenth century, the total annual product of this branch of British industry amounted to £8,000,000. In 1776, the value of exported woolens fell short of £4,000,000. From that time, both the domestic and foreign demand, especially for the finer fabrics, seems to have rapidly increased; for in 1783, the annual produce of the principal manufactories of the country was estimated at £16,000,000. Between 1772 and 1792, the importation of Spanish wool increased from about 1,500,000 pounds per annum, to nearly 4,000,000. At the close of the last century, the number of sheep in England and Wales was estimated at *twenty-six millions*, and the total value of manufactured woolens at about £18,000,000. Since then, the woolen trade has greatly increased, but in what ratio I was unable to learn. The West Riding of Yorkshire has long been the principal seat of this branch of British industry. Wiltshire, Somersetshire and Gloucestershire are also extensively and successfully engaged in the same business. *Leeds* is the centre of the Yorkshire district or rather, perhaps I ought to say, the great mart of those immense piles or broadcloth which are manufactured not only in that town, but in Wakefield, Huddersfield, Saddleworth, and other parts of the district. There is not another spot on earth, forty miles by twenty, that consumes so much fine wool, and sends its elegant and costly fabrics, to so many markets.

There are three great cloth-halls in Leeds, where the master manufacturers expose their goods for sale. One of these contains upwards of 1,200 stands, and another 1,728. These stands are fitted up in double rows, upon the sides of long galleries, for the convenience of merchants in examining the goods and making their purchases. The *worsted* manufacture took its name from a small town in the county of Norfolk, where it commenced, though Norwich seems, in a short time, to have become the seat of it. The home consumption being greatly diminished by the enroachments of cotton fabrics, after the great invention of Sir Richard Arkwright, the Norwich manufacturers were induced to look out for foreigh markets; and their enterprise was rewarded by so brisk a demand, from all parts of Europe, that it was difficult for them to furnish the goods as fast as they were called for. In a short time, however, the trade began to decline, and the breaking out of the French Revolution ruined it. *Flannels*, till lately, were chiefly manufactured in Wales, the principal marts of which are Salop and Welchpool. The annual value of woolen fabrics of all descriptions, in England and Wales, is supposed not to fall much, if any, short of $100,000,000.

But there is nothing in Great Britian, or any other part of the world, to be compared with the prodigious extent, and increase of the *Cotton Manufacture*, of which Manchester is the central moving power and the grand emporium. It is the growth of scarcely *fifty* years, and its advance, for the last five and twenty, has been all but miraculous. *Whitney* in this country, and *Arkwright* in that, are the men to whom it is indebted, beyond all others, for its undisputed pre-eminence:—to the former for the thousand fingered machine, which cleans and prepares the staple for market, and to the latter, for that which spins it. Arkwright, I believe received a liberal reward for his great invention: but I am ashamed when I think of the ingratitude and avarice, which were but too successfully leagued together to deprive *Eli Whitney*, of even a stinted patent income, for one of the most important inventions of the age in which he lived. Several minor improvements of great value in cotton machinery, originated in the riots and turnouts, by which those who had been used to the slow processes of hand labor, have from time to time most unwisely manifested their hostility to every improvement. Nothing sharpens human ingenuity more, than efforts to confine it to the plodding cider-mill rounds of former generations; and those classes of laborers both in England and America, who combine to stop invention and otherwise embarrass their employers, may rest assured that if they will not tolerate the powers of nature, in helping forward the business of the world, those powers, so far from yielding to their dictation will be made to act with increasing energy and perfection in spite of them. "Break as many ginnies and power-looms and stocking frames as you will," (has virtually been the language of master-manufacturers in England, to the malcontents of their respective districts,) and we will make better ones. If you will not work in our mills then our mills shall work without you."

A single short paragraph of condensed statistics will show that I have not overrated the incredible activity and success of British enterprize, in the manufacture of cotton fabricks. In 1781, not more than 50,000 spindles were employed in all England and Scotland, and the whole importation of cotton amounted to only a trifle more than £5,000,000. In 1785 it rose to £17,992,888; and the value of the goods was estimated at £6,000,000. The average of five years, from 1792 to '96, was in round numbers, £27,000,000; from 1797 to 1801, £42,000,000; from 1802 to 1806, £58,000,000; from 1807 to 1811, £88,000,000. In 1833, according to Mr. Barnes' valuable work on the cotton manufactures of Great Britain, 204,000,000 pounds in round numbers were imported; 283,000,000 manufactured; 10,246,900,000 hanks of yarn spun, averaging forty hanks to the pound; value of the cotton-wool consumed, at 7*d.* per *lb.* £8,244,693; value of cotton goods exported, £13,754,992; of yarn, £4,704,008. Value of cotton fabrics consumed at home, £12,879,693; total value of the manufacture, £31,338,693; capital employed in the manufacture £34,000,000; number of operatives in the spinning and weaving factories, 237,000; number of persons supported by the manufacture, 1,500,000; wages, £6,044,000; power moving the machinery—*steam* equal to 33,000 horses—*water*, equal to 11,000.

Prodigious as these estimates are, there has been a great increase in all the items since 1833. When I was in Lancashire, many new mills of the largest class were going up, and the importations of cotton wool in 1835 amounted to the enormous aggregate of 330,000,000*l.* In 1836, I have no doubt it went up to *three hundred and sixty or seventy millions*, (a million for each day in the year:) but take it at 330,000,000, and look at it for a moment. According to these figures more than 6,000,000 lbs. are manufactured per week, or over 1,000,000 upon an average every working day, from January to January. That is, the British manufacturers work up 500 tons of raw cotton every day for home consumption, and to supply their foreign customers! And according to a late calculation, no less than 230,000 barrels of wheat flour are consumed annually, in the cotton factories of Great Britain, in dressing the webs and other processes! Here I might leave the subject of British manufactures, without a single additional item, or remark. But permit me to put down two or three supplementary estimates, which I believe rest or good authority. Annual value of metalic ware, $80,000 000, employing 350,000 persons; silks $22.000,000; shoes, harness, &c. $50 000,000, and candles, $16,000,000. Rapid and inadequate, as is the forgoing glance, it reveals to us one of the grand secrets of the stupendous resources of an island, which would scarcely be thought worth noticing upon the margin of such a map as we proudly hold up for the admiration of mankind.

Buckwheat Wanted.

A HIGH price will be paid for good clean Buckwheat delivered soon at the Rochester Seed Store.

june3 6 2w REYNOLDS & BATEHAM.

Mulberry and Locust Seed.

A NEW supply of White Italian Mulberry and Yellow Locust Seed, just received by

REYNOLDS & BATEHAM.

6my *Rochester Seed Store, Arcade Buildings.*

Flower Seeds.

A SPLENDID assortment of annual, biennial, and perennial Flower Seeds of the growth of 1836, for sale at the Rochester Seed Store, in boxes of 20 varieties for $1, 50 varieties for $2, 100 varieties for $4, or singly at 6 cts per paper. Catalogues may be had at the Store.

apr19 REYNOLDS & BATEHAM.

3,125 LBS. Ruta Baga, White Flat, Norfolk, Long Tankard, Yellow Bullock, and other Turnip, Mangel Wurtzel, French Sugar Beet, and Orange Carrot, with a great variety of *English Improved Garden Seeds*—"cheap as dirt," at the Rochester Seed Store *Arcade Buildings.* apr22 REYNOLDS & BATEHAM.

Morus Multicaulis.

JOSEPH DAVENPORT offers for sale 50,000 plants of the true Chinese Mulberry or Morus multicaulis. They will be carefully packed and forwarded as early as desired. Orders must be sent to Colerain, Mass. till the 15th of April, after which time to Hartford Co. All communications will be promptly attended to. My residence 5 miles south-west of the city. Letters or orders only will be supplied, as arrangements will be made to be at home to wait on them.

Colerain, Jan. 23, 1837.

Still More Seeds!!

WE have just received large additional supplies of genuine Orange Carrot, Mangel Wurtzel, Ruta Baga, and English Turnip seeds of the best quality.

Also, a good supply of Cucumber, Melon, Squash, and Pumpkin seeds.

The unprecedented demand for seeds this season, had exhausted our stock of some kinds. We can now supply orders at very low prices.

REYNOLDS & BATEAAM,

Rochester Seed Store. Arcade Buildings.

May20

Early Red Eye Beans.

A LARGE supply of these superior Beans just received at the Rochester Seed Store.

These beans are very early and productive, and from the certainty and abundance of the crop, and the high price they bring in market, are doubtless the most profitable kind for planting.

A farmer in this vicinity realized 180 dollars for the product of 2 acres the last season.

REYNOLDS & BATEHAM,

apr 22 36 Arcade Buildings.